THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 31

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DONALD J. MACCLEOD

Appeal No. 1998-0695
Application 08/400,320

ON BRIEF

Before JERRY SMITH, BARRETT and DIXON, Administrative Patent Judges.

JERRY SMITH, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal under 35 U.S.C. § 134 from the examiner's rejection of claims 1 and 6-9, which constitute all the claims remaining in the application.

The disclosed invention pertains to the field of disc drives. In one aspect of the invention, a labyrinth seal is

formed between a flange portion of a shaft/hub assembly and an outer race of an upper ball bearing assembly and an inner surface of a bearing sleeve. In another aspect of the invention, a flexible printed circuit cable is provided having a plurality of bonding pads radially aligned with stator gaps and located within the radial extent of the stator windings and below the top of the stator poles.

Representative claim 1 is reproduced as follows:

1. A disc drive comprising:

a base casting with a cylindrical bore extending between the inner and outer surfaces of the casting, the bore having a central axis and an interior surface facing the central axis, the inner end of the bore having a stop surface; and

a spindle motor with a cylindrical bearing sleeve,

the bearing sleeve having an outer surface and a first integral, intermediate flange extending outwardly from the outer surface and forming at least one abutting surface; said bearing sleeve mounted in said bore with said flange abutting surface abutting said bore stop surface and with said outer surface of said bearing sleeve between said flange and one end thereof contacting said interior surface of said bore; and

the bearing sleeve having an inner surface and a second integral, intermediate flange extending inwardly from the inner surface and forming upper and lower bearing contact surfaces;

the spindle motor including upper and lower ball bearing assemblies mounted within the bearing sleeve, with the outer races of the upper and lower bearing assemblies radially

contacting the inner surface of the bearing sleeve and axially contacting the upper and lower bearing contact surfaces, respectively; and

a shaft/hub assembly, supported by the inner races of the upper and lower ball bearing assemblies,

the shaft/hub assembly including a radially extending flange portion having a lower surface in proximity to an upper surface of the outer race of the upper ball bearing assembly and having an outer surface in proximity to the inner surface of the bearing sleeve, so that a labyrinth seal is formed between said flange portion of said shaft/hub assembly and said outer race of said upper ball bearing assembly and said inner surface of said bearing sleeve.

The examiner relies on the following references:

Crapo	4,858,044	Aug. 15, 1989
Elsasser et al. (Elsasser)	5,001,581	Mar. 19, 1991
Tanaka et al. (Tanaka)	5,256,922	Oct. 26, 1993 (Apr. 8, 1992)

Claims 1 and 6-9 stand rejected under 35 U.S.C. § 103. As evidence of obviousness the examiner offers Crapo in view of Elsasser and Tanaka with respect to claims 1 and 6-8, and only Crapo and Tanaka with respect to claim 9.

Rather than repeat the arguments of appellant or the examiner, we make reference to the brief and the answer for the respective details thereof.

OPINION

We have carefully considered the subject matter on

appeal, the rejections advanced by the examiner and the evidence of obviousness relied upon by the examiner as support for the rejections. We have, likewise, reviewed and taken into consideration, in reaching our decision, the appellant's arguments set forth in the brief along with the examiner's rationale in support of the rejections and arguments in rebuttal set forth in the examiner's answer.

It is our view, after consideration of the record before us, that the evidence relied upon and the level of skill in the particular art would not have suggested to one of ordinary skill in the art the obviousness of the invention as set forth in claims 1 and 6-9. Accordingly, we reverse.

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references

to arrive at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). If that burden is met, the burden then shifts to the applicant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. See Id.; In re Hedges, 783 F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir. 1986); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); and In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976).

Only those arguments actually made by appellant have been considered in this decision. Arguments which appellant could have made but chose not to make in the brief have not been considered [see 37 CFR § 1.192(a)].

We consider first the rejection of claims 1 and 6-8 based on the teachings of Crapo, Elsasser and Tanaka. Claims 1, 6 and 7 stand or fall together [brief, page 5], and we will consider independent claim 1 as the representative claim for this group. With respect to claim 1, the examiner cites Crapo as teaching various features of a disc drive. The examiner admits that Crapo does not show the labyrinth seal structure between the flange, the outer race of the upper ball bearing and the inner surface of the bearing sleeve as recited in claim 1. The examiner points to Figure 1 of Elsasser and asserts that Elsasser teaches a labyrinth seal of the type recited in claim 1. The examiner concludes that it would have been obvious to the artisan to replace the shaft/hub assembly of Crapo with the shaft/hub assembly of Elsasser because they are art recognized equivalents [answer, pages 4-6]. Tanaka is cited to teach the features of the intermediate flange as recited in claim 1.

Appellant makes only a single argument to rebut the examiner's rejection of claim 1. Specifically, appellant argues that the collective teachings of Crapo, Elsasser and Tanaka do not teach or suggest the claim recitation that "a labyrinth seal is formed between said flange portion of said shaft/hub assembly and said outer race of said upper ball bearing assembly and said inner surface of said bearing sleeve" [brief, page 5]. Although the examiner asserts that Elsasser teaches the claimed labyrinth seal, appellant argues that Elsasser does not support the examiner's findings [id., pages 6-7].

After a careful consideration of the respective positions asserted by appellant and the examiner, we find ourselves in agreement with appellant. Although all the individual elements of a disc drive are taught by the references, including a labyrinth seal, we agree with appellant that the labyrinth seal of Elsasser is not formed by the specific components recited in claim 1. The examiner seems to view the seal of Elsasser as equivalent to the claimed seal. Although the Elsasser seal and the claimed seal may achieve the same function of protecting the delicate

portions of the disc drive from contamination, the seal in Elsasser is not formed between the specific components as recited in claim 1. We cannot find in any of Elsasser's embodiments a teaching of using the flange portion of the shaft/hub assembly, the outer race of the upper ball bearing assembly, and the inner surface of the bearing sleeve. The examiner's position that the Elsasser seal fully meets the labyrinth seal as recited in claim 1 is simply based on pure conjecture and speculation which is not supported by any of the embodiments of Elsasser.

Since the examiner has improperly relied on the teachings of Elsasser to teach the labyrinth seal of claim 1, the examiner's rejection fails to establish a prima facie case of obviousness. Therefore, we do not sustain the rejection of claims 1, 6 and 7. Although claim 8 is grouped separately from claim 1, claim 8 contains the same labyrinth seal feature just discussed, so we also do not sustain the rejection of claim 8.

We now consider the rejection of claim 9 based on the teachings of Crapo and Tanaka. The examiner again cites Crapo as teaching various features of a disc drive. The examiner

admits that Crapo does not show the “flex” circuit as recited in claim 9. The examiner asserts that Tanaka teaches a flex circuit, and the examiner asserts the obviousness of using Tanaka’s teachings in the Crapo disc drive. The examiner also notes that the location of the bonding pads in the combined prior art is different from the location recited in claim 9, but the examiner reasons that it would have been obvious to move the location of the bonding pads in the manner recited in claim 9 [answer, pages 9-11].

Appellant again makes only a single argument to rebut the examiner’s rejection of claim 9. Specifically, appellant argues that the collective teachings of Crapo and Tanaka do not teach or suggest the claim recitation that “said flexible printed circuit cable having a plurality of bonding pads radially aligned with said gaps and located within the radial extent of said windings and below the top of said stator poles” [brief, page 7].

Specifically, appellant argues that the examiner’s proposed relocation of Tanaka’s bonding pads is contrary to one of the objectives of Tanaka and is not suggested by any of the

applied prior art.

We again agree with the position argued by appellant. Although the examiner has attempted to find a beneficial result in relocating the bonding pads of Tanaka below the top of the stator poles, there is nothing in Tanaka or Crapo which suggests that this modification would be desirable or necessary. The mere fact that the prior art may be modified in the manner suggested by the examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. In re Fritch, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783-84 (Fed. Cir. 1992); In re Gordon, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984). On this record, the only basis to make the relocation suggested by the examiner is to improperly reconstruct appellant's invention in hindsight. Therefore, we do not sustain the examiner's rejection of claim 9.

In conclusion, we have not sustained either of the examiner's rejections of the claims under 35 U.S.C. § 103.

Therefore, the decision of the examiner rejecting claims 1 and

6-9 is reversed.

REVERSED

JERRY SMITH	)	
Administrative Patent Judge	)	
	)	
	)	
	)	
LEE E. BARRETT	)	BOARD OF PATENT
Administrative Patent Judge	)	APPEALS AND
	)	INTERFERENCES
	)	
	)	
JOSEPH L. DIXON	)	
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js/ki

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